

Old Uses for a New Delta

Rethinking Water and
Environmental Management in
the Bay-Delta

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A New Vision For The Delta

- **WHEREAS** the combined threats and changing conditions within the Delta require immediate attention because of the potentially catastrophic environmental and economic consequences if timely action is not planned for and undertaken;
- **NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER**, hereby initiate the Delta Vision and establish an independent Blue Ribbon Task Force to develop a durable vision for sustainable management of the Delta.

A Sustainable Ecosystem

➤ Economy

(able to provide a reasonable living standard to most)

➤ Society

(governance that most people accept)

➤ Environment

(high capacity to provide desirable goods and services)

The Delta Environment

- Degrading

(listed species, subsiding lands, toxic substances)

- Fragile

(weak levees, vulnerable to invaders, stressed)

- Threatened

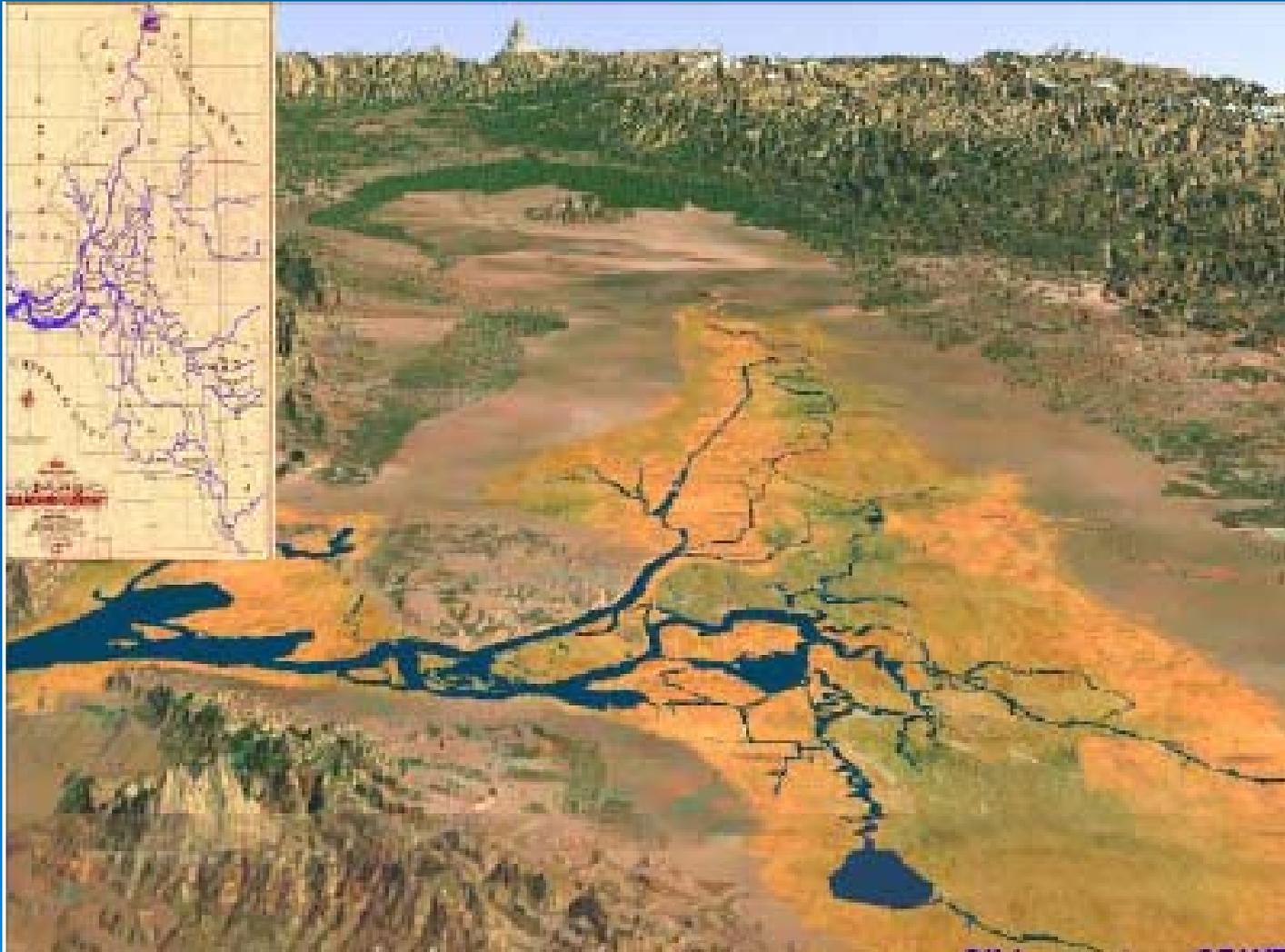
(sea level rise, earthquake, storm/flood, exotic species, population/urban growth)

Revitalizing the Environment

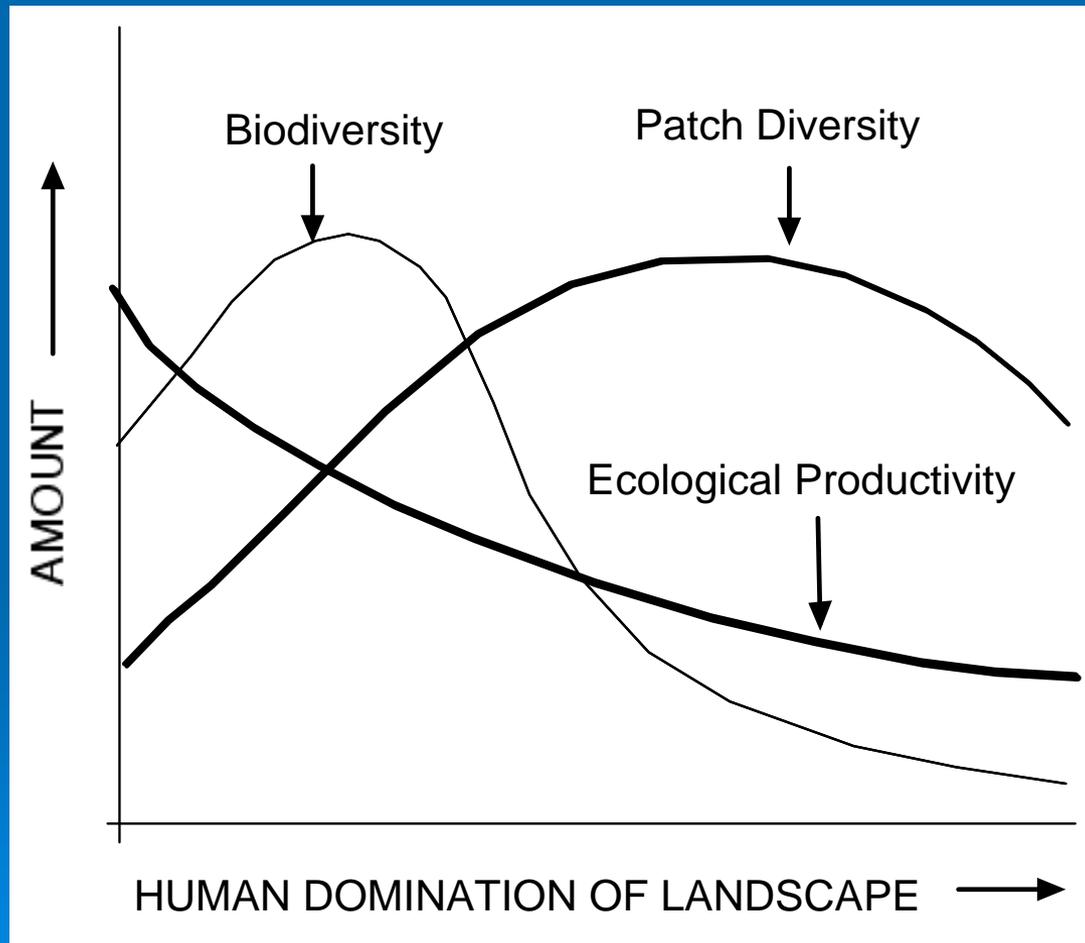
- Rebuild Habitats
- Restore More Natural Flows
- Repel Exotic Invaders
- Recreate Dendritic Circulation
- Redirect Urban Growth
- Retain Upland Connectivity
- Rethink Land Use Patterns
- Reexamine upstream uses
- Respond to a Changing Future



Estuaries Are Landscapes



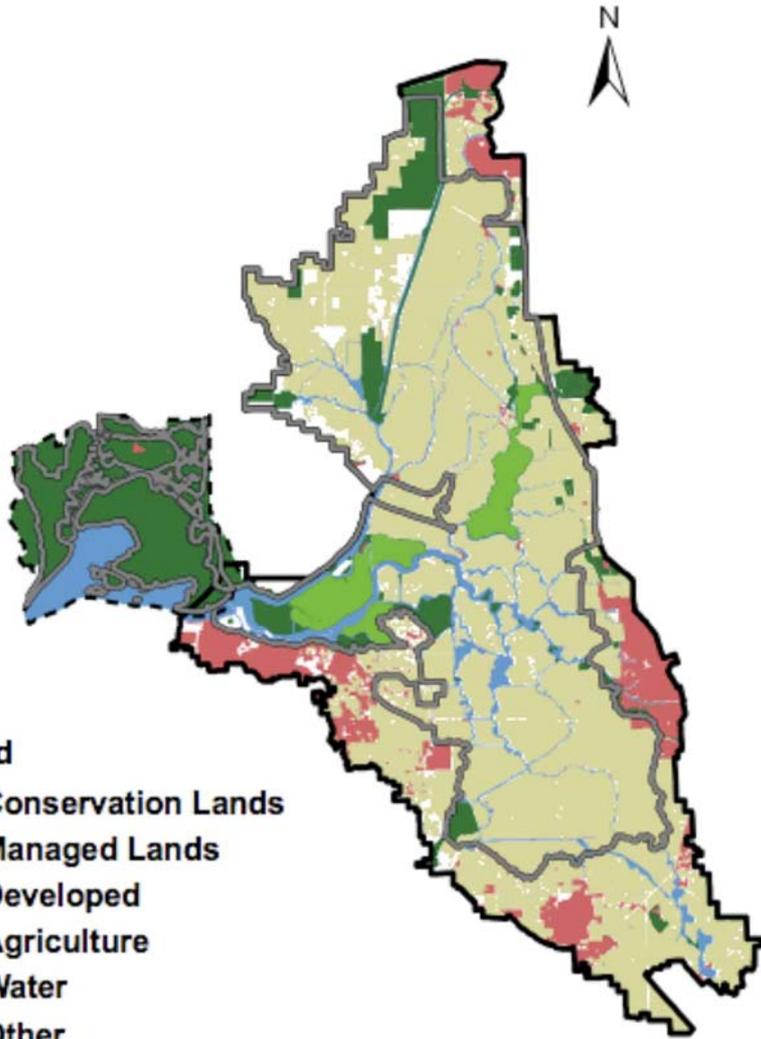
Human Development of Estuaries Has Important Ecosystem Level Consequences



What ecosystem patches comprise the larger estuarine ecosystem?

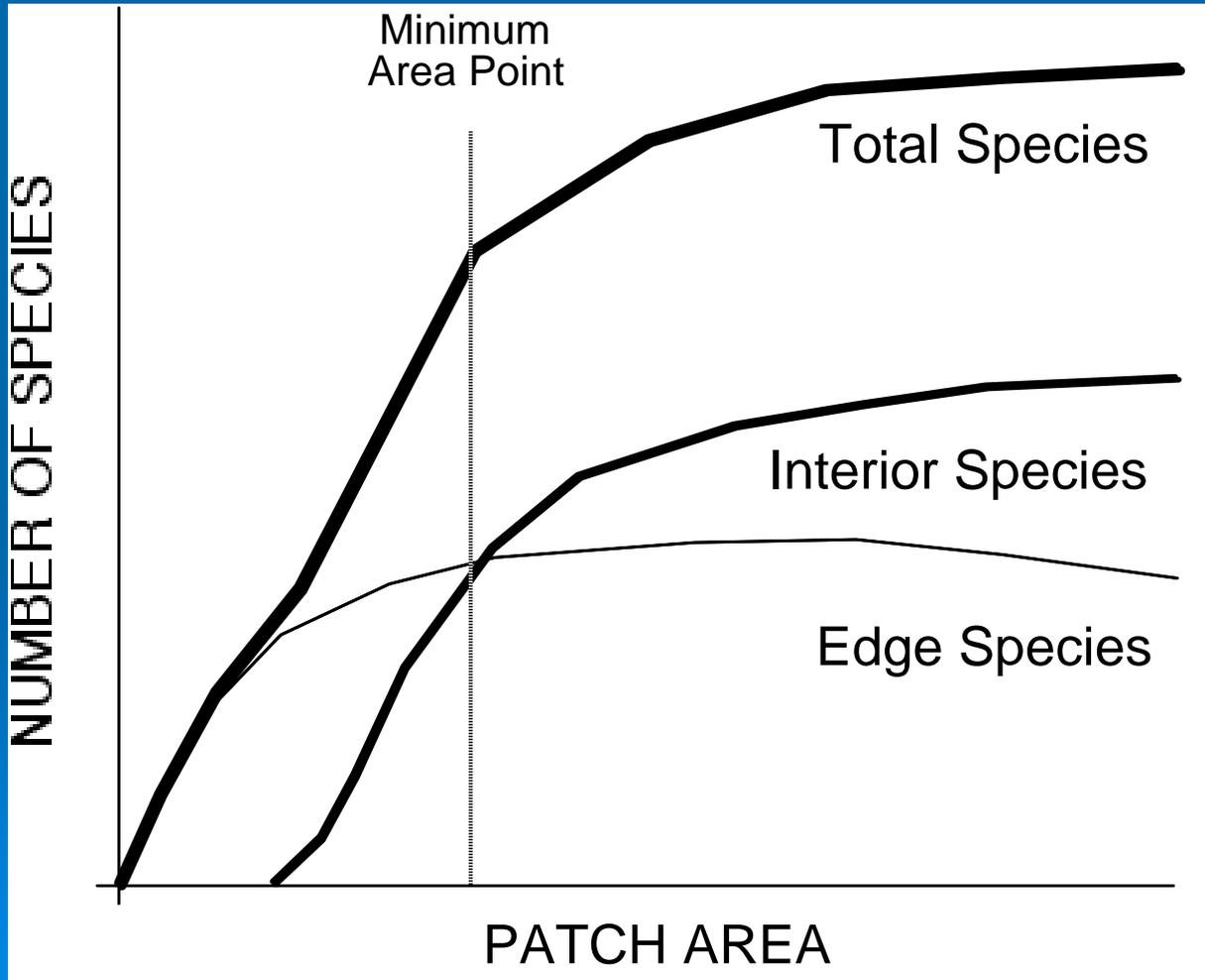
Legend

- Conservation Lands
- Managed Lands
- Developed
- Agriculture
- Water
- Other
- Delta Primary Zone
- Legal Delta
- Suisun Marsh



Delta-Suisun Land Uses Land use is predominantly agricultural in the Delta and conservation in the Suisun Marsh

Ecosystem Patch Size and Species Richness



Land Subject to Inundation Under 1 m Sea Level Rise

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

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Areas of Different Land Cover Types Subject to Monthly Inundation

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are needed to see this picture.

All Land Cover Types Are Affected but Crop Lands Are Most Affected

Sustainability and Wicked Problems

- Environmental Management in the Delta is a Wicked Problem
 - All Solutions are Temporary
 - Every Solution Creates New Conditions and New Problems
 - There Are no Right or Wrong Solutions Only Better or Worse Solutions
 - Management Never Ends
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Sustainability and Drivers of Change

- The future is uncertain but changing
- Choose solutions that are robust to change
- Today's solutions will soon be obsolete
- The new Delta needs to have the capacity to change



Conclusions

- Sustainable management of the Delta is a complex, ever changing problem. There is no one-shot fix.
- The Delta is a landscape and should be managed as such.
- The size and arrangement of land and water types defines the ecosystem.
- Drivers of change impose a new standard of adaptability on managers.
- Society and economy are not on hold.